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13 April 1962

MEMORANDUM FOR: Chief, Technical Plans & Development Staff

SUBJECT: Staff Study, "Model 45 Multi-Motion Twin 70mm Light Table"

1. Problem

To provide photo interpreters a compact, simple instrument mount with adequate light, capable of handling two reels of 70mm film, for primary stereo viewing of 70mm roll film or comparison of previous cover.

2. Assumptions

a. Inputs of 70mm width film will continue for at least another year.

b. Large quantities of 70mm coverage will be stored in roll form for reference.

c. There is no compact convenient instrument available to rapidly locate and examine images on 70mm roll film.

3. Discussion

a. In the course of satisfying a requirement, the interpreter frequently has to view film coverage from previous missions to determine changes which have taken place or coverage of other areas where similar installations have been seen. A second optical instrument and light table is the most economical method of accomplishing this task.

b. The subject light table is the most compact and convenient instrument presently available for the above tasks. It also is designed for the [] zoom pod and does not require new optics.

c. Several refinements to the attached design sketch would be desirable in order that the best possible mechanical operation is assured. These design changes have been discussed with [] design engineer, who agreed that the suggestions would improve the mount and were feasible. The following changes were suggested:

(1) Add a crank to the traverse feed knob (Item 2 on drawing).

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(2) Provide split bearing friction braking on the spool arms similar to the design provided in APFL arms.

(3) Provide [] 360° rotatable arms as mount for the zoom 70 stereoscope pod.

(4) Eliminate film hold down flanges and provide a single flat light table surface. A square of plate glass is adequate if film flattening becomes a problem.

(5) Provide variable light intensity in each quarter of the light box, possibly through a two-level grid arrangement of fluorescent tubes with appropriate baffles and switches.

(6) Provide free running rollers for the film paths at each side of the table (possibly segmented rollers).

(7) Make provision for occasional use of 1,000 ft. (10 1/2" diameter) reels.

(8) Make center film spool idler arm removable in order that odd film widths may be viewed in the monocular mode.

d. It is anticipated that the subject light table and microscope mount will serve as a readily portable companion to the [] APFL 940 light table and will be used in situations where the standard zoom 70 light table mount is now set on a 940 light table merely to utilize the roll film brackets on the 940 light table.

4. Facts

a. The subject light table incorporating the suggested modifications can be delivered at an estimated price of [] each.

b. The Army Detachment [] has indicated a need for two of these instruments; PAS [] eight instruments; Air Force Detachment [] two instruments. Individual interpreters throughout the building have stated that such an instrument is desirable.

c. Security considerations preclude the discussion of NPIC problems with other potential vendors and the subject light table best fits the Center's needs for a supplementary microscope mount among all others proposed or on the market to date.

5. Conclusions

a. The [] Model 45 Multi-Motion Twin 70mm Light Table is an excellent design tailored to NPIC needs for a versatile, compact supplementary microscope mount and light table.

b. Sufficient interest has been expressed to proceed with procurement of an initial order for the subject device to satisfy the Center's immediate requirements.

6. Recommendations

a. That a contract for eight instruments be negotiated with [redacted] for PAS.

b. The contract should include the changes to the drawing stated in paragraph 3, and the delivery schedule should state, "one unit 60 days from receipt of contract and one unit per week for the remaining units".

c. The Army Detachment [redacted] has requested two units and the Air Force Detachment [redacted] has requested two units.

d. The total order will be for twelve units.

[redacted]

AC/TDB

NPIC/TP&DS/TDB: [redacted]